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ABSTRACT

This issue focuses on contextual learning (CL), in which students master rigorous academic content in real-world or work-based learning experiences. "Emerging Trends in CL Show Positive Results for Students" discusses CL as an important strategy for improving student achievement. It describes: how CL raises the bar for all students, challenging them to deepen academic learning by putting it in meaningful contexts; how companies have created partnerships with local schools and how national industry associations encourage business partnerships and career academies; how leverage organizations play a "scale-up" role; why public-private partnerships are crucial; and how employers support CL. Other content includes a "Viewpoint" by Russell C. Deyo, Vice President, Administration, Johnson & Johnson, on business support of education; "What CL Means to Youth," with students opinions; "CL Produces Higher Achievement, Better Results" with research results that show CL, especially career academies, produces positive results for high risk students; "National Models Show What Works in CL," which describes examples of career academies and of industry associations that reach out to many companies with CL tailored to their industries; and "Internet Helps Teachers Build Stronger Lesson Plans" which focuses on the Internet's Futures Channel. (YLB)

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ED 451 347

Emerging Trends in Contextual Learning Show Positive Results for Students

Work•America

Volume 18 Issue 2
February 2001

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NATIONAL ALLIANCE OF BUSINESS

Work•America

THE BUSINESS VOICE ON WORKFORCE DEVELOPMENT

Emerging Trends in Contextual Learning Show Positive Results for Students

At a time when academic expectations are rising for American high school students, contextual learning, in which students master rigorous academic content in real-world or work-based learning experiences, is emerging as an important strategy for improving student achievement.

Survey results show that at-risk students who participate in contextual learning experiences based on academic standards are more likely than other students to take honors courses in math, science, lab science and advanced computer science. These students also are more likely than their peers to believe that they will graduate from high school, earn a college degree and be employed full time at the age of 30, according to *Initial Tabulations: 1997 National Longitudinal Survey for Youth*, released in 1999.

Contextual learning makes a positive difference, not only for at-risk

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See Inside

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National Models Show What Works in Contextual Learning 6

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Working hand in hand to provide contextual learning experiences, employers and educators can help students achieve at higher levels.

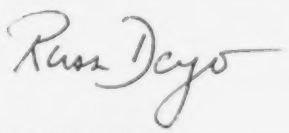
Viewpoint

There is a rich and varied history in this country of private-sector philanthropy directed at issues of social concern. Business support of education always has been at the forefront of this community involvement. The nature of this support has evolved over time, becoming increasingly collaborative in the last few years.

Educational institutions are discovering that businesses are genuinely interested in participating in improvement processes for schools, teachers and students and less interested in simply writing checks. The most important business resource is concerned workers who understand and demonstrate to students the behaviors and skills valued and rewarded by their companies. Teamwork approaches to project management, problem solving and personal accountability are among the skills and values the business community can share with students and school leaders.

A new paradigm around global corporate social responsibility is here to stay. Partnerships, alliances and coalitions are at its core. Business partnerships with education and community-based organizations have become common. These partnerships involve much more than financial support; often employees work closely with school officials, teachers, parents and students to accomplish specific goals. Today, the role of companies in philanthropy and community relations is no longer defined by "how much" we give, but by "how" we give.

The business community is faced with multiple challenges, including an increasing shortage of qualified employees. Communities and schools continue to wrestle with a significant number of unmotivated students and an unacceptable drop-out rate. Collaborative business-education partnerships are not the sole solution, but surely they have the potential to effect change. We can have a profound impact on education and help fulfill our responsibilities as corporate citizens. The benefits for our companies, as we have discovered, also are becoming quantifiable and significant.



Russell C. Deyo
Vice President, Administration
Johnson & Johnson

What Contextual Learning Means to Youth

To find out what students think of contextual learning, just ask Anna Boyadjieva, a senior at Terra Linda High School in San Rafael, Calif., who has been learning the basics of computer software and Web design for nearly two years as an intern at Autodesk, Inc.

"An internship is a good way to find out if that's the job field you want to go into, and Autodesk has served that function for me," says Boyadjieva. "I am pretty sure that I want to go into Web design, computer graphics and animation — maybe make some special effects for movies. We'll see."

Autodesk launched the Design Your Future (DYF) program in 1997 to give girls like Boyadjieva a chance to deepen what they're learning in school about math, science and technology. DYF interns, all young women ages 14 to 19, work with the women of Autodesk to develop and maintain the DYF Web site and programs. DYF also enables interns and other young women to hear professional women speakers, explore mentoring and job-shadowing opportunities, and apply for DYF college scholarships.

"I can't wait to go to college."

The need for such a program was clear to Autodesk Chairman, President and CEO Carol Bartz, who in 1998 won the National Alliance of Business Founders Award for Distinguished Business Leadership. The dearth of women in high-tech companies can be traced to girls' loss of interest in math and science during their early school years, according to Bartz. With women making up only 16 percent of scientists, 6 percent of engineers and 4 percent of computer scientists in the United States, women risk missing out on some of today's most exciting career opportunities.

"It's been a great experience because I've been around so many great, inspirational women," Boyadjieva beams. "It's a very supportive environment, and I feel very fortunate to be surrounded by strong women and mentors."

But she isn't in any hurry to abandon education: "I can't wait to go to college," Boyadjieva says. "I wish to go to school in Boston, and I've already been accepted to my number-one school of choice." •

Facts & Figures

Contextual Learning Produces Higher Achievement, Better Results

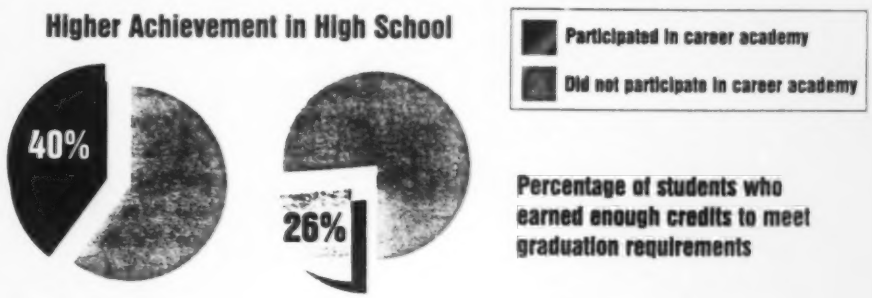
Research consistently shows that contextual learning produces positive results for high-risk students.

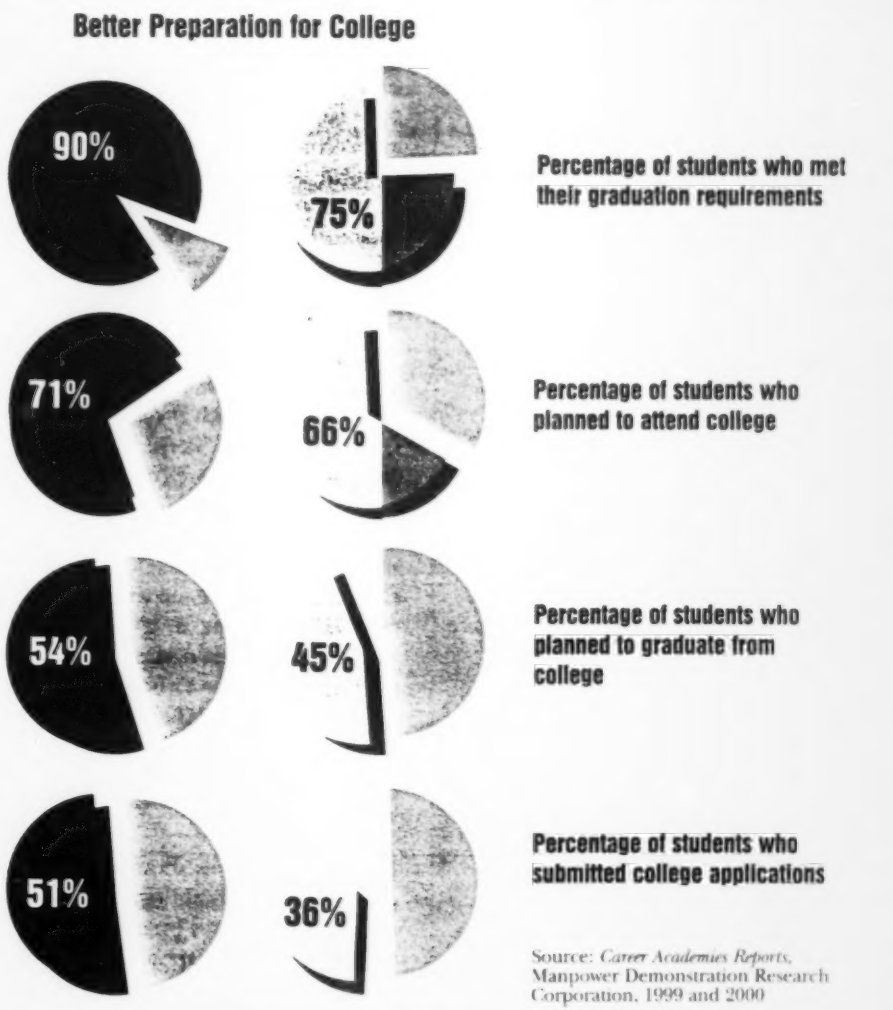
Because contextual learning helps make education more relevant and meaningful to students, high-risk students who participate in such activities show higher achievement, more ambitious course-taking patterns and better preparation for higher education than their nonparticipating peers.

As these figures indicate, career academies — a rapidly expanding form of contextual learning that engages students in academic work and workplace experiences tightly focused on a particular business or industry — hold enormous promise. Students participating in career academies take more academic courses and are more likely to graduate from high school on time than other students. ●

Career Academies Boost Preparation

Students who traditionally are less likely to perform well in high school or go on to college have much better outcomes if they attend a career academy, according to a study done in 2000 by the Manpower Demonstration Research Corporation of nine career academies around the country. The research sample of approximately 1,700 students was 55 percent Hispanic and 30 percent African American.


Higher Achievement in High School
Participated in career academy
Did not participate in career academy
40%
26%
Percentage of students who earned enough credits to meet graduation requirements



Source: *Career Academies Reports*, Manpower Demonstration Research Corporation, 1999 and 2000

Factoid

The National Academy Foundation reports that more than 4 out of 5 graduates of affiliated academies go on to two- and four-year colleges each year.

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Emerging Trends

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students, but also for all students. *The Employer's Role in Linking School and Work*, a 1998 report by the Center for Economic Development, reported that school-to-work programs that use contextual learning may result in better course-taking patterns, improved reading and math scores, fewer dropouts, and more college enrollments. (For more data, see Facts & Figures, page 3.)

Contextual learning raises the bar for all students, challenging them to deepen academic learning by putting it in meaningful contexts.

These positive results should not come as a surprise. Research shows that only about 40 percent of students remember best what they see or read, and fewer than 30 percent recall best what they hear. Most people are "tactile" or "kinesthetic" learners, who learn best by moving, touching and doing — the hands-on activities that form the basis of contextual learning.

Contextual learning raises the bar for all students, challenging them to deepen academic learning by putting it in meaningful contexts. Algebra, for example, morphs from an obscure mathematical language into a useful tool when students use it to build a product. Geometry moves from the realm of the abstract to the zone of reality when students use it to design construction blueprints.

The Future of Contextual Learning

Many companies — such as General Motors, Intel and United Parcel Service — have seized the opportunity to maximize the impact of contextual learning by creating innovative partnerships with local schools, largely through initiatives that grew from seed funding provided by the federal School-to-Work Opportunities Act. As funding from the act nears its sunset in October 2001, the business and education communities remain committed to raising student achievement and are collaborating to build on their shared experience and success. These business and education collaborative relationships aim to make contextual learning part of education's mainstream agenda of improving student achievement.

National industry associations as well as companies and organizations supporting career academies demonstrate two model approaches to scaling up contextual learning efforts at the local, regional and state levels. These "leverage organizations" pool resources and expertise so that individual companies and school systems do not have to create initiatives from scratch.

Industry associations promote initiatives customized to connect academic study with the needs of specific industries, working through their existing networks of member companies to encourage involvement in education and business partnerships around contextual learning. Companies and organizations that create and sponsor career academies provide models for occupational-skill programs integrated with the academic curriculum. These models can be adopted and adapted at the school site and integrated with activities to engage the local employer community.

"Education has always been the cornerstone for building a bright future," John Smith Jr., chairman of General Motors Corporation, told business leaders at the National Alliance of Business' Annual Awards Luncheon in October 2000. "School-to-career has tremendous potential for meeting the workplace need for technical skills *and* opening more doors for postsecondary education, including four-year college degrees."

Leverage Organizations Play "Scale-Up" Role

Whether industry associations or national academy sponsors, leverage organizations are critical to making contextual learning happen on a larger scale than it has in the past. In many cases, educators are stretched thin with responsibilities, and employers don't have dedicated personnel to coordinate contextual learning efforts, according to Alice Ostrovsky, workforce development program manager at Autodesk, Inc. "There needs to be that third party," says Ostrovsky.

A thriving approach being widely employed is the academy model. "Academies are small learning communities comprising groups of students within public high schools," according to the National Academy Foundation's Web site. "Academy students take classes around a career theme ... with the same team of teachers for two to four years. Partnerships with employers, the community and local colleges bring resources from outside the high school to improve student motivation and achievement."

Academies sponsored by companies such as Cisco Systems and Oracle Corporation work with students over a two- to three-year period, helping them to acquire a specific range of knowledge and skills and apply traditional academic subjects to a particular industry sector. Some academies

include a very detailed curriculum that is created and updated by the sponsoring company to reflect current workplace standards. Other academies include at least a framework and sequence that link to local and state curriculum requirements, and academies often include a one- or two-year postsecondary component that is delivered through community college partners.

Complementing the academy movement, industry associations more and more are playing this "scale-up" role as well. For example, the National Retail Federation (NRF) and the National Association of Manufacturers strive to integrate work and education by promoting challenging math and science curricula and work-based learning experiences for students across the country.

"Trade associations have helped to generate employer participation in school-to-careers," affirms Kathryn Mannes, workforce development manager at NRF, which represents more than retailing companies and associations. "We operate at a national level and can get corporate commitment. Our state associations and local partners then have an easier time getting participation in their programs. We can help make the business argument that investment in school-to-career and related workforce development initiatives pays off for companies. And we can help leverage resources."

Public-Private Partnerships Are Crucial

The key to making contextual learning work, according to those who have found success, is securing a strong partnership between businesspeople and educators to integrate work-based learning into the academic program of students.

"Partnerships are critical to programs that work," says Beth Buehlmann, executive director of the Center for Workforce Preparation, an affiliate of the U.S. Chamber of Commerce. "All the community stakeholders need to be involved to sustain the effort and ensure that it meets the needs of the community."

But "the leadership of the school system and the school — the superintendent and the principal — need to support the concept with personnel, money and flexible policies that encourage collaboration with the business community," says Dayl Walker, program manager at the Connecticut Business and Industry Association. According to a new report by the Institute on Education and the Economy on exemplary contextual learning initiatives that lead to college acceptance, many programs around the country are building these partnerships and instituting systemic school changes.

"[NRF] can help make the business argument that investment in school-to-career and related workforce development initiatives pays off for companies. And we can help leverage resources."

— Kathryn Mannes

But to scale up contextual learning so that it becomes part of mainstream education reform, it still needs to be easier for schools and employers to accomplish effective initiatives. Leverage organizations such as industry associations and academy sponsors are helping that to happen.

Employers Support Contextual Learning

The business community overwhelmingly supports contextual learning, as evidenced by a recent survey by the Business Coalition Network, consisting of more than 900 business groups and managed by the National Alliance of Business. The coalition is working to improve student achievement and workforce quality at the state and local levels. More than 62 percent of the respondents indicated they are involved in or interested in school-to-career initiatives — more than any other activity.

Meanwhile, the National Employer Leadership Council (NELC), also managed by the Alliance, is dedicated to expanding and enhancing employer involvement in activities that offer contextual learning. NELC has created a number of publications designed to help employers get involved. For example, the most recent issue of *The Employer Focus*, NELC's newsletter, explores the role of intermediaries and alternative infrastructures in contextual learning initiatives.

NELC also has developed a series of briefs articulating the business perspective on related issues, including the leadership role of industry associations and ways of linking contextual learning with broader education reform and workforce development strategies. Moreover, as part of its *Best Practices* series produced in cooperation with national trade associations, NELC recently issued documents showcasing models of work-based learning activities in the hospitality and information technology industries. Forthcoming publications will include booklets on the retail, manufacturing, automotive, utilities and construction industries. See the back cover for more details on this series. ●

National Models Show What Works in Contextual Learning

Groups such as industry associations and national academies are playing a leading role in helping schools work with companies to make learning more relevant to students' lives beyond the classroom, in college and in the career world.

These groups are important because they are bringing contextual learning to scale. Industry associations can reach out to large numbers of companies at once with contextual learning tailored to their industries. Career academies have reasonable and admirable track records with programs that can be implemented in many schools — and affect large numbers of students. Here we look at some leading examples.

Pooling an Industry's Expertise and Resources

The share of employers providing work-based learning experiences skyrocketed 125 percent from 1996 to 1999, according to the most recent data available from the National School-to-Work Office. This rapid rise in activity has underscored participating businesses' need for support networks. In many places, national industry associations are answering that need.

A key player among industry associations is the **Information Technology Association of America** (ITAA), whose more than 26,000 members include companies that specialize in computers, software, telecommunications products and services, Internet and online services, systems integration, and professional services. The Techforce Initiative, a partnership among ITAA, the Alliance and the Education Development Center, Inc., is expanding business involvement nationwide by facilitating regional symposia, creating an IT learning network, enhancing its Web-based information clearinghouse, and developing tools and products for building school-business collaborations.

"Perhaps the most important characteristic of school-to-work is partnerships — partnerships that endure beyond the federal legislation," says Marjorie Bynum, vice president of workforce development at ITAA. "We've found the most success with collaborations between high-tech employers and educational institutions that work together to make school-to-work activities and awareness possible."

That message dovetails with the major strategies of the **National Association of Manufacturers** (NAM). NAM's Manufacturing Industries Careers Alliance connects schools and manufacturers through sustained collaborations designed to enhance learning and career opportunities for young people.

"We all know how serious the skills shortage is: 60 percent of manufacturers reported in a recent [NAM] survey that they typically reject half of all job applicants as unqualified," NAM President Jerry Jasinowski reported at the 2000 National Skills Summit. "Firms in urban areas and in the suburbs, in rural communities and in industrialized areas, need to partner with local schools, especially high schools, to develop curricula that will prepare young people for the real world."

In the same spirit, the retail industry, which employs one in five U.S. workers, has united in the **National Retail Federation** (NRF), which promotes education partnerships, leverages resources and operates major contextual learning efforts in 11 states. "NRF and the NRF Foundation have developed Retail Skills Centers designed to provide contextual learning at the workplace — primarily at retail malls. The centers are learning laboratories that make full use of internships, shadowing, employer visits and work-based projects," Kathryn Mannes, workforce development manager at NRF, points out. "Retail provides opportunity to develop portable skills in customer service and sales valued across a wide range of industries."

Last year, the NRF Foundation also created a toolkit to guide development and implementation of local contextual learning partnerships and programs.

Career Academies: Established, Proven Programs

Another model with potential for broadscale use in schools across the nation is career academies that provide established, proven programs for local contextual learning efforts.

The **Ford Academy of Manufacturing Sciences** (FAMS), for example, provides high school students nationwide with reality-based courses in areas such as engineering and manufacturing, summer intern-

ships at local businesses, team projects, field trips, and guest speakers. Academic rigor is built in. Students, who must be reading at or above grade level and have passed algebra to enter the program, can receive credit for each FAMS course taken.

"Teachers [at FAMS] have been trained in new ways of educating their students. They are asking their students to become more responsible for their own learning activities, to recognize their teacher as an important resource and collaborator, to work with other students in team situations, and to recognize the fact that sometimes there are no right or wrong answers but better or worse answers," explains Mike Schmidt, external education programs manager at Ford. "Ford has provided the curriculum to support this type of an approach, and has conducted training activities for teachers interested in implementing this program."

The approach appears to be working for students. Since the academy's inception a decade ago, more than 85 percent of participating students have gone on to higher education.

Similarly, **Schwab School-to-Careers** has expanded from the program's 1997 inception in San Francisco to a nationwide initiative that has provided contextual learning experiences for more than 400 high school and college students. High school juniors and seniors can explore a range of opportunities at Charles Schwab & Co., Inc., including job shadowing, mentoring, paid summer internships and part-time work throughout the year. Participating students learn about Schwab practices and industry terminology while performing activities such as maintaining databases, creating basic spreadsheets, conducting research, assisting investment specialists and operations representatives, and performing transactional and cashiering duties.

The financial services company's School-to-Careers Department develops partnerships with local public schools to integrate work-based learning with academic programs. The most important ingredients of successful programs are "long-term commitment to the students and partnership among educators, community and business community," says Jenni Yoshida, senior manager for school-to-careers at Schwab. "In many of our locations, we work with local school districts and other school-to-career organizations."

For the past eight years, the **Shell Youth Training Academy** (SYTA) program also has provided inner-city youth with educational experiences and career opportunities. Nearly 800 high school students have graduated from the Los Angeles SYTA alone — Shell's oldest career academy. In addition, hundreds of other students have enrolled in SYTAs in Chicago and Oakland, Calif.

The program is rigorous. First, applicants must meet tough criteria for citizenship skills and academic potential, including at least a 2.2 grade point average and a recommendation from a teacher or counselor. Once accepted, high school juniors and seniors attend half-day classes at SYTA for one semester. The program covers elements of successful career development such as career planning, job search skills, how to interview, interpersonal skills and effective communication.

Shell Oil Company is getting results in education just as in business. Four Los Angeles SYTA graduates have earned scholarships to DePauw University, for example, and 95 percent of Chicago SYTA graduates are working, going to school or both. ●

Internet Helps Teachers Build Stronger Lesson Plans

The Futures Channel, a new Internet-based resource, is helping teachers develop stronger, more contextual curricula. It offers teachers a variety of video and other lesson resources to create more engaging learning experiences.

The station provides teachers with award-winning lesson plans, interviews with master teachers and tapes of experts. Teachers also learn ways to relate academic knowledge to the real world. For example, the channel might air a documentary on a sports photographer who combines art and mathematics to freeze a 250-pound linebacker in midtackle.

"There are over three million teachers in America who face the challenge of relating what they are teaching to the real world," says Milton Chen, instructional media pioneer and executive director of the George Lucas Educational Foundation. "They are expected to be able to effectively answer the question: 'When will I ever use this?' The Futures Channel is going to help them answer that question."

The Annenberg/CPB Channel is produced by Harvard University and the Smithsonian Institution and is funded by Annenberg. Currently reaching over 40,000 schools and 21 million households in 47 states, viewers may access the channel via satellite or through intermediaries, such as local PBS stations, cable or ITFS channels.

For more information about the Futures Channel, visit the Web site at www.futureschannel.com. ●

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The National Alliance of Business is a national business organization focused solely on increasing student achievement and improving the competitiveness of the workforce. The Alliance's members include CEOs and senior executives of Fortune 500 companies, educators, and business-led coalitions. Together, the Alliance and its members are leading efforts to strengthen the link between education and the workplace and promote training and lifelong learning.

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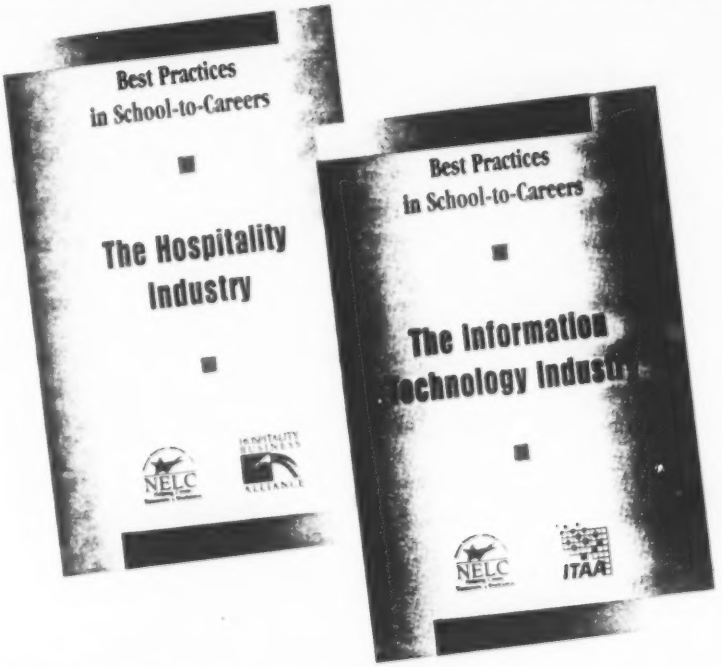
The National Employer Leadership Council (NELC), managed by the National Alliance of Business, is working with various trade associations to create a series of Best Practices booklets offering advice on school-to-careers in specific industries. Booklets on the hospitality and information technology industries have been released; additional booklets on the retail, manufacturing, automotive, utilities and construction industries are in the works.



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